



**STATE OF MONTANA
MONTANA DEPARTMENT OF TRANSPORTATION
JOB PROFILE**

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Update

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Formal Review

Date Submitted _____

SECTION I - Identification

Working Title: Designer

Department: Transportation

Job Code Number: 173135

**Division & Bureau: Engineering,
Highways Bureau**

Job Code Title: Designer

Section & Unit: Road Design

Pay Band: 5

**Work Address: 2701 Prospect Ave.
Helena, MT 59601**

Position Number: 32067, 32037

Phone: (406) 444-6230

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FLSA Exempt

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FLSA Non-Exempt

☐

Non-Union

☒

MPEA

☐

Blue Collar

Profile Completed By:

Work Phone:

Work Unit Mission Statement or Functional Description: The Highways Bureau is responsible for all aspects of the development and design of highways. It includes the Photogrammetry & Survey Section, the Hydraulics Design Section, and the Road Design Section.

The Road Design Section is responsible for the design and assembly of the road plans package, which is the major part of the development of all highway projects in the Department of Transportation. Compiling the road plans package entails the proposal and evaluation of alternates, analysis and design of geometric and safety features, the incorporation of traffic, geotechnical and hydraulic elements, estimating of the plan quantities, and writing of specifications needed to build highways on the Secondary, Primary, and National Highway systems of the State of Montana.

Describe the Job's Overall Purpose:

Compile and integrate design information for a wide range of complex design projects and a moderate range of unprecedented innovative design projects using knowledge of drafting, engineering practices, mathematics, highway construction processes and standards. Must be able to display a moderate level of innovation in the use of computer-assisted design software.

SECTION II - Major Duties or Responsibilities

This section should be a clear concise statement of the position's major duties and the approximate percent of work time for each duty

% of Time

- | | | |
|--|---|------------|
| A. | | 20% |
| 1) | Review design proposals, field notes, correspondence and scoping reports for overall design objectives in order to develop the basic design plan for projects ranging from resurfacing to reconstructions associated with safety projects or bridge replacements. | |
| 2) | Review "as-built" plans to determine which existing features do not meet current design criteria. May modify these features during the design process depending on the scope of the project. | |
| 3) | Assist in the evaluation of terrain features, environmental and historic considerations, land use, utility and right-of-way impacts, as well as other field data, to develop preliminary design. | |
| 4) | Code data for Microstation and Geopak design software after design parameters have been determined. | |
| B. Design preliminary plans for a range of design projects of limited complexity using knowledge of engineering practices, mathematics, construction processes, and computer-assisted design software. | | 55% |
| 1) | Develop typical section drawings by applying specified dimensions for top width and surfacing depths as well as materials types recommended by the Pavement Analysis Section. | |
| 2) | Determine and calculate roadway stationing, compute horizontal and vertical alignments for small scale reconstruction projects. | |
| 3) | Calculate surfacing, grading, drainage and other miscellaneous quantities. | |
| 4) | Submit preliminary plans for projects to all affected work units for review; gather comments indicating field or other work unit problems, and change plans accordingly. | |
| 5) | Design final road plans using computer-assisted design and drafting equipment. | |
| C. Perform miscellaneous duties involved with finalizing design for design projects of limited complexity using knowledge of engineering practices, mathematics, construction processes, and computer-assisted design software. | | 25% |

- 1) Attend plan reviews in order to compile information that may involve design changes or additions. The incumbent will normally correlate such information with other related work units by authoring appropriate reports documenting all decisions made by the plan review team. The report is normally edited by the lead designer.
- 2) Compile cost estimates for contract items generated either by computer design software or by manual calculation.
- 3) Prepare draft special provisions necessary to ensure the successful bidding and construction of a project by documenting necessary information, data, or instructions.

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1. ***The following duties and/or specific tasks listed under section II above are considered "essential functions" because they require specialized expertise and skill and are the primary reasons the job exists (they must be performed by this position with or without accommodations):***

The following mental and physical demands are associated with these essential functions:

PHYSICAL

- Work is performed in an office setting.
- Travel is required occasionally, perhaps six times per year, with one or more overnight stays.

2. ***Does this position supervise others?*** ☐ Yes ☒ No

3. ***Attach an Organizational Chart.***

SECTION III - Minimum Qualifications - List minimum requirements for the first day of work.

Critical knowledge and skills required for this position:

KNOWLEDGE: Basic knowledge of road design and construction methods, processes and procedures, computer-assisted drafting and design software, and engineering techniques are required for design projects of limited complexity. An introductory knowledge of federal guidelines and procedures regarding road design and construction is also required.

SKILLS: The incumbent designer must have the ability to interpret site-specific data from various sources, in order to finalize designs.

Behaviors required to perform these duties:

See MDT Core Behaviors

Education:

Check the one box indicating minimum education requirements for this position for a new employee the first day of work:

- | | |
|---|--|
| <input type="checkbox"/> No education required | <input type="checkbox"/> Related AAS/2-years college/vocational training |
| <input type="checkbox"/> High school diploma or equivalent | <input checked="" type="checkbox"/> Related Bachelor's Degree |
| <input type="checkbox"/> 1-year related college/voc. training | <input type="checkbox"/> Related Master's degree |

Please specify the acceptable fields of study: BS Degree in Civil Engineering or in an engineering field related to this type of work.

Experience:

Check the one box indicating minimum work-related experience requirements for this position for a new employee the first day of work:

- | | |
|--|--|
| <input checked="" type="checkbox"/> No prior experience required | <input type="checkbox"/> 3 years |
| <input type="checkbox"/> 1 year | <input type="checkbox"/> 4 years |
| <input type="checkbox"/> 2 years | <input type="checkbox"/> 5 or more years |

Alternative Qualifications:

This agency will accept alternative methods of obtaining necessary qualifications.

- ☐ Yes ☒ No

SECTION IV – Other Important Job Information

- | | |
|--|---|
| <input type="checkbox"/> Fingerprint check | <input type="checkbox"/> Valid driver's license |
| <input type="checkbox"/> Background check | <input type="checkbox"/> Other; Describe |

Other information including working conditions such as shifts, lifting requirements, travel or hours.

SECTION V – Signatures

Signature indicates this statement is accurate and complete.

Employee:

Name: _____ Title: _____

Signature: _____ Date: _____

Immediate Supervisor:

Name: _____ Title: _____

Signature: _____ Date: _____

Bureau Chief:

Name: Paul Ferry _____ Title: Highways Bureau Chief

Signature: _____ Date: _____

Division/District Administrator:

Name: Duane Kailey _____ Title: Chief Engineer

Signature: _____ Date: _____

Department Designee:

Jennifer Jensen/Designee Chief Human Resources Officer
Human Resources Division

Signature: _____ Date: _____